

Corrugated-Plate Dechirper



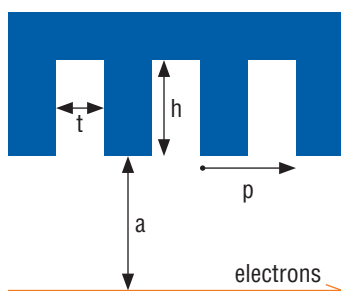
Maximum module length	2 m
Gap range, $2a$	1 – 25 mm
Nominal gap.....	1.4 mm
Period, p	500 μm
Slit width, t	250 μm
Slit height, h	250 μm
Tip flatness over length.....	50 μm

APPLICATIONS

- Removal of residual chirp after bunch compression
- Bunch streaking for longitudinal diagnostics
- RF-curvature correction

OPTIONS & FEATURES

- Motorized tilt adjustment for beam-based alignment
- Integrated RF BPMs for direct alignment
- Custom corrugation parameters
- Cooling for high-repetition rate beam
- Up to 10 μm positional accuracy



RadiaBeam Technologies has developed a versatile corrugated plate dechirper system for use in a variety of beam manipulation applications. The RadiaBeam Dechirper includes careful attention to long-term stability, machine protection, emittance preservation, and operational adjustability that is adaptable to a range of XFELs and other high-brightness facilities. The design scales well to lower energy beamlines and is easily adapted to a range of applications.

DECHIRPER

RadiaBeam's first installation of its XFEL-quality dechirper has been commissioned at the LCLS and is now being used to deliver X-rays to users. It allows complete cancellation of the soft X-ray operating mode. Its parameters can be seen to the left and includes dual vertical and horizontal module for cancellation of quadrupole wakefields.

STREAKER

The Streaker version is a passive replacement for RF-based deflectors without the problems of RF jitter or high operations costs. The streaking concept has also been demonstrated at the LCLS using a 2 meter long RadiaBeam Dechirper. The Streaker can also be used to flexibly produce two-color X-rays.

CURVATURE CORRECTION

The Dechirper can also be used to excite non-linear modes to correct residual RF-curvature. This has the potential to replace higher-order cavities in XFELs and has been demonstrated on UED/UEM beamlines.



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Other options are available upon request. Please contact us or visit our website for purchasing information.